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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/365,678	08/02/1999	ESHWAR PITTAMPALLI	CASE-11	2090
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EXAMINER PHUONG, DAI				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

09/365,678

Applicant(s)

PITTAMPALLI, ESHWAR

Examiner

DAI A. PHUONG

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date: _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 4 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Huang et al. (U.S. 6041358).

Regarding claim 1, Huang et al. disclose a method of maintaining a communication link comprising the steps of:

initiating, via a master device, unregistration at a controller, the unregistration being of a dependent in communication with the master device using a communication channel on a frequency band fband(1) (Col. 9, lines 45-63. Note: when a MT moves out of the proximity of a first BS and into the proximity of a second BS. The MT issues a packet to the first BS (it is inherent that the MT transmits the packet to the first BS via a channel which is called a first frequency, e.g., fband(1)). In response, the first BS deregisters the MT from its registration database ; and

transmitting a message to the dependent indicating to the dependent to register with a communications network using a frequency band fband(2) (Col. 9, lines 45-63. Note: the MT also issues a packet to the new BS (it is inherent that the MT also transmits the packet to the new

BS via second channel which is called a second frequency, e.g., fband(2). In response, the second BS registers the MT in its registration database).

Regarding claim 2, Huang et al. disclose all the limitation in claim 1. Further, Huang et al. disclose the method comprising the additional steps of: receiving a registration message from the master device on the frequency band fband(1) indicating the dependent; and registering the dependent with the master device before the step of unregistering (col. 9, line 45 to col. 10, line 60).

Regarding claim 3, Huang et al. disclose all the limitation in claim 1. Huang et al. disclose the method comprising the additional step of: transmitting another message indicating to the communications network to register the dependent with the communications network via the controller (col. 9, line 45 to col. 10, line 60).

Regarding claim 4, Huang et al. disclose all the limitation in claim 1. Further, Huang et al. disclose the method wherein the dependent is unregistered when an unregistration message is received (col. 9, line 45 to col. 10, line 60).

Regarding claim 8, Huang et al. disclose all the limitation in claim 1. Further, Huang et al. disclose the method wherein the message is transmitted using a frequency band fband(2) (col. 9, line 45 to col. 10, line 60).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. 6041358) in view of Farwell et al. (U.S. 5396541).

Regarding claim 5, Huang et al. disclose all the limitation in claim 1. However, Huang et al. do not disclose the method wherein the dependent is unregistered when a strength of a signal transmitted between the dependent and the master device on the frequency band fband(1) falls below a threshold value.

In the same field of endeavor, Farwell et al. disclose the method wherein the dependent is unregistered when a strength of a signal transmitted between the dependent and the master device on the frequency band fband(1) falls below a threshold value (col. 3, line 22 to col. 4, line 29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the multi communication access point of Huang et al. by specifically wherein the dependent is unregistered when a strength of a signal transmitted between the dependent and the master device on the frequency band fband(1) falls below a threshold value, as taught by Farwell et al., the motivation being in order to allow the determination of which cell a mobile unit should be handed off to which will work in the spread spectrum environment and not require the use of reusable dedicated channels. Additionally, the system controller transfers the wireless mobile unit to the base station which is receiving the strongest signal strength.

Regarding claim 6, the combination of Huang et al. and Farwell et al. disclose all the limitation in claim 5. Further, Farwell et al. disclose the method comprising the additional step of:

monitoring a communication channel associated with the master device on the frequency band fband(1) (col. 3, line 22 to col. 4, line 29).

Regarding claim 7, the combination of Huang et al. and Farwell et al. disclose all the limitation in claim 6. Further, Huang et al. disclose wherein the communication channel is defined by a frequency hopping sequence (col. 3, line 22 to col. 4, line 29).

Regarding claim 9, Huang et al. disclose all the limitation in claim 1. However, Huang et al. do not disclose the method comprising the additional step of: transmitting a handoff message to the communications network indicating to the communications network to communicate directly with the dependent.

In the same field of endeavor, Farwell et al. disclose the method comprising the additional step of." transmitting a handoff message to the communications network indicating to the communications network to communicate directly with the dependent (col. 3, line 22 to col. 4, line 29)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the multi communication access point of Huang et al. by specifically including the method comprising the additional step of: transmitting a handoff message to the communications network indicating to the communications network to communicate directly with the dependent, as taught by Farwell et al., the motivation being in order to allow the determination of which cell a mobile unit should be handed off to which will

work in the spread spectrum environment and not require the use of reusable dedicated channels. Additionally, the system controller transfers the wireless mobile unit to the base station which is receiving the strongest signal strength.

Regarding claim 10, the combination of Huang et al. and Farwell et al. disclose all the limitation in claim 9. Further, Farwell et al. disclose the method wherein the handoff message is transmitted on the frequency band fband(2) (col. 3, line 22 to col. 4, line 29).

5. Claims 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (U.S. 5448569) in view of Stewart (U.S. 5633888).

Regarding claim 11, Huang et al. disclose a method for maintaining a communication link comprising the steps of:

searching at a dependent for one or more frequency hopping sequences from a set of frequency hopping sequences (col. 5, lines 28-50. Note: Huang et al. disclose the remote station selects a home base station and locks into its frequency hopping pattern or the remote station detects or search a number (N) of frequencies prior to choosing an initial home base station because a single frequency transmission may suffer from frequency dependent fading); registering the dependent with a first master device and a controller when a first frequency hopping sequence is detected, the first frequency hopping sequence being associated with the first master device (col. 5, lines 28-50. Note: Huang et al. disclose when a remote station is first powered up, it listens at a fixed frequency and searches for valid header messages from neighboring bases. After a fixed period of time, it switches to another frequency and keeps on

monitoring. During this monitoring process, the remote station keeps a record of RSSI, HOR, and LV from each base station);

continuously monitoring for frequency hopping sequences in the set of frequency hopping sequences (col. 5, lines 28-50. Note: Huang et al. disclose that the remote station monitors all neighbor base station and keeps a record of RSSI, HOR, and LV from each base station);

However, Huang et al. do not disclose registering the dependent with one of (1) the controller and (2) a second master device & the controller if the dependent detects a signal transmitted on a second frequency hopping sequence associated with the second master device having a higher signal strength than a signal transmitted on the first frequency hopping sequence.

In the same field of endeavor, Stewart et al. registering the dependent with one of (1) the controller and (2) a second master device & the controller if the dependent detects a signal transmitted on a second frequency hopping sequence associated with the second master device having a higher signal strength than a signal transmitted on the first frequency hopping sequence (fig. 5, col. 10, lines 1-47. Note: Stewart et al. disclose that the mobile device continues in this manner until it identifies the new access point. It then communicates with the new access point, as shown in step 507, continuing to take signal strength measurements until it determines a low signal strength, at which time the process of hunting for the next access point).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the multi communication access point of Huang et al. by specifically including registering the dependent with one of (1) the controller and (2) a second master device & the controller if the dependent detects a signal transmitted on a second

frequency hopping sequence associated with the second master device having a higher signal strength than a signal transmitted on the first frequency hopping sequence, as taught by Stewart et al., the motivation being in order to reduce transition or handoff time.

Regarding claim 12, the combination of Huang et al. and Stewart et al. disclose all the limitation in claim 11. Further, Huang et al. disclose the method wherein the step of registering the dependent with the first master device comprises the step of: transmitting a registration message to the first master device using the first frequency hopping sequence (col. 5, lines 28-50).

Regarding claim 13, the combination of Huang et al. and Stewart et al. disclose all the limitation in claim 11. Further, Stewart discloses the method wherein the step of registering the dependent with the second master device comprises the step of: transmitting a registration message to the second master device using the second frequency hopping sequence (col. 10, lines 1-57).

Regarding claim 14, the combination of Huang et al. and Stewart et al. disclose all the limitation in claim 11. Further, Huang et al. disclose the method wherein the set of frequency hopping sequences use a first frequency band fband(1) (col. 5, lines 28-50).

Regarding claim 15, the combination of Huang et al. and Stewart et al. disclose all the limitation in claim 14. Further, Stewart discloses the method comprising the additional step of: searching for a signal transmitted using a second frequency band fband(2) if no frequency hopping sequence in the set are detected (col. 10, lines 1-47).

Regarding claim 16, the combination of Huang et al. and Stewart et al. disclose all the limitation in claim 15. Further, Stewart et al. disclose the method comprising the additional step

of: registering with a communication network when the second frequency band fband(2) is detected, the communications network being associated with the second frequency band fband(2) (col. 10, lines 1-47).

Regarding claim 17, the combination of Huang et al. and Stewart et al. disclose all the limitation in claim 11. Further, Stewart discloses the method comprising the additional steps of: receiving a registration message indicating the dependent to register with a communications network; and registering with the communication network using a second frequency band fband(2) (col. 3, line 22 to col. 4, line 29).

Regarding claim 18, this claim is rejected for the same reason as set forth in claim 11.

Regarding claim 19, the combination of Huang et al. disclose all the limitation in claim 18. Further, Huang et al. disclose the method wherein the first and second frequency hopping sequences are part of a set of frequency hopping sequences on a same frequency band (col. 5, lines 39-50).

Response to Argument

6. Applicant's arguments filed 10/15/2008 have been fully considered but they are not persuasive. Please see the below explanation.

Response to Argument

7. Applicant, on page 7 of the remark, argues that Huang I does not teach sending a message to the MT indicating the MT to register with a communications network. However, the Examiner respectfully disagrees with the Applicant.

Huang I discloses in Col. 9, lines 46-63 that during the handoff, the MT knows the VLAN-ID of the new VLAN containing the second base station. In other word, during the handoff, the system sends a message which includes the second base station ID to the MT. The message indicates the MT to register with the second base station based up the base station ID.

8. Applicant, on page 9 of the remark, argues that Stewart does not teach an adjacent value being equivalent to a detected signal strength and Stewart teaches a mobile device switches to an access point having a highest adjacent value, not higher signal strength as claim 1 requires. However, the Examiner respectfully disagrees.

Firstly, Stewart discloses in Col. 10, lines 10-20 that the mobile unit determines that the signal strength from the current access point is below a predetermined threshold level. This determination is based on a plurality of periodic signal strength measurements taken by the mobile unit while communicating with the current access point. The mobile device then **consults the adjacency matrix**, or relevant portion thereof, stored in memory 232. **The mobile device thus identifies the access point having the highest adjacency value**, indicating that it is the access point most likely to be adjacent to the current access point. However, Stewart discloses in Col. 9, lines 1-8 that **the adjacency matrix is retrieved/derived from signal strength information**. Therefore, the Examiner contends that the adjacent value is corresponding to the detected signal strength. Thus, Stewart teaches a mobile device switches to an access point having a highest adjacent value as well as higher signal strength.

Secondly, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e.,

Stewart teaches a mobile device switches to an access point having a highest adjacent value, not higher signal strength as claim 1 requires) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. Applicant, on page 9 of the remark, argues that Huang II or Stewart do not teaches "transmitting an unregistration message over the second frequency hopping sequence if the strength of the first frequency hopping sequence falls below a threshold value" as claim 18 recites. However, the Examiner respectfully disagrees.

Huang II discloses in Col. 3, line 37 to Col. 4, line 42 that a remote station gains wireless access to the network by first requesting the services of a base station within its range. This process, called "Registration" is well known in the art. If a remote station is within the range of multiple base stations, it will register with exactly one base station, called its Home Base. Within a cell, the base station and all remote stations registered with it hop in synchronism and communicate with each other using the same carrier frequency. When a remote station changes its physical location, the signal quality to its home base can decline rapidly (due to wear signals or from interference) and eventually the remote station may lose access to its home base. Even when a remote station is stationary, communication path to the home base may be lost due to fading conditions. To retain continuity of wireless access, the remote station must re-register with another base station that can be reached along a propagation path of adequate signal quality.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2617

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-7687.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Dai A Phuong/
Examiner, Art Unit 2617
Date: 12/24/2008

/Alexander Eisen/
Supervisory Patent Examiner, Art Unit 2617